

REMARKS

Favorable consideration of the application is respectfully requested. Claims 19-21, prior to this paper, were pending in the present application. By this paper, claims 19-21 are amended and claims 22-33 are added.

Claim Rejections - 35 U.S.C. §102

Claim 19, prior to amendment, was rejected under 35 U.S.C. §102(b) as anticipated by Park et al. (U.S. 5,296,400).

Claim 19 has been amended and now reads:

“...planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material remains only between the adjacent transistor gate structures;

removing the planarized amorphous carbon filler material ...”

Park et al. discloses depositing a filler material at least in a region between the adjacent transistor gates structures. The filler material disclosed by Park et al. can be Low Temperature Oxide, a Plasma Enhanced Chemical Vapor Deposition oxide, a Spin-On-Glass a Boro-Phospho-Silicate Glass (BPSG) or a Tetra-ethyl-ortho-silicate material (see Col 3, lines 6-10 of Park et al. and BPSG is preferred (see Col 3, line 68 – Col 4, line3).

In contrast, the instant invention, as presently amended, discloses using an amorphous carbon as a filler material and “planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material remains only between the adjacent transistor gate structures,” a feature of the invention as relied on by amendment.

Clearly, Park et al. does not disclose the use of an amorphous carbon material that is planarized to function as a filler material residing only between adjacent transistor gate structures that is then cleared for the formation of a subsequent conductive material.

Therefore, by amendment, the rejection of claim 19 under 35 U.S.C. §102(b) as anticipated by Park et al. (U.S. 5,296,400), is overcome.

Claim 21, prior to amendment, was rejected under 35 U.S.C. §102(b) as anticipated by Wei et al. (U.S. 6,423,645).

Claim 21 has been amended and now reads:

“...planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material remains only between the adjacent transistor gate structures;

selectively dry developing the planarized amorphous carbon filler material ...”

Wei et al. discloses depositing an amorphous carbon filler material (i.e., amorphous SiC) at least in a region between the adjacent transistor gates structures. Wei et al. also discloses patterning the amorphous carbon filler material prior to contact formation such that the amorphous carbon material remains over the transistor gate structures and not between adjacent transistor gate structures (see Col 3, line 64 through Col 4 line 2 and Fig 3).

In contrast, the instant invention, as presently amended, teaches using an amorphous carbon as a filler material and “planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material remains only between the adjacent transistor gate structures,” a feature of the invention as relied on by amendment.

Clearly, Wei et al. does not disclose the planarizing of an amorphous carbon material as a filler material with the planarized amorphous carbon material remaining only between adjacent transistor gate structures (which is later cleared for the formation of a subsequent conductive material).

Therefore, by amendment, the rejection of claim 21 under 35 U.S.C. §102(b) as anticipated by Wei et al. (U.S. 6,423,645), is overcome.

Claim Rejections - 35 U.S.C. §103

Claim 20, prior to amendment, were rejected under 35 U.S.C. §103(a) as being unpatentable over Park et al. (U.S. 5,296,400) in view Ha (U.S. 6,451,708).

Claim 20 has been amended and now reads:

“...planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material remains only between the adjacent transistor gate structures;

removing the planarized amorphous carbon filler material ...”

Park et al. discloses depositing a filler material at least in a region between the adjacent transistor gates structures. The filler material disclosed by Park et al. can be Low Temperature Oxide, a Plasma Enhanced Chemical Vapor Deposition oxide, a Spin-On-Glass a Boro-Phospho-Silicate Glass (BPSG) or a Tetra-ethyl-ortho-silicate material (see Col 3, lines 6-10 of Park et al. and BPSG is preferred (see Col 3, line 68 – Col 4, line3).

Ha discloses the forming of a contact having the aspect ratio at about 5.76:1.

In contrast, the instant invention, as presently amended, discloses using an amorphous carbon as a filler material and “planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material remains only between the adjacent transistor gate structures,” a feature of the invention as relied on by amendment.

The combination of Park et al. and Ha do not render the presently claimed invention as obvious as neither of the cited art discloses using an amorphous carbon as a filler material and “planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material remains only between the adjacent transistor gate structures,” a feature of the invention as relied on by amendment.

Therefore, by amendment, the rejection of claims 1-3, 7, 8, and 11-14 under 35 U.S.C. §102(b) as being unpatentable over Park et al. (U.S. 5,296,400) in view Ha (U.S. 6,451,708), is overcome.

Additional Information

Claims 22 – 33 have been added and receive support from the specification as originally filed. Therefore, no new matter has been added.

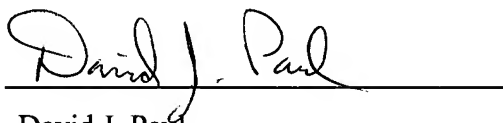
CONCLUSION

Applicant submits that the application is in condition for allowance. Such allowance at an early date is respectfully requested.

If the Examiner feels that a conference will expedite the prosecution of this case, the Examiner is cordially invited to call the undersigned.

Respectfully Submitted,

Dated July 14, 2005

A handwritten signature in cursive script, reading "David J. Paul", is written over a solid horizontal line.

David J. Paul
Agent for the Applicant
Registration Number 34,692
(208) 368-4515